

REMARKS

Claims 1-46 are pending in this application, claims 1-13 having been withdrawn from consideration. By this Amendment, claims 14, 43 and 46 are amended. Support for the amendments to claims 14, 43 and 46 can be found, for example, in original claims 14, 43 and 46 and in the instant specification at paragraph [0075]. No new matter is added. In view of the foregoing amendments and following remarks, reconsideration and allowance are respectfully requested.

Entry of the amendments is proper under 37 CFR §1.116 since the amendments: (a) place the application in condition for allowance for the reasons discussed herein; (b) do not raise any new issue requiring further search and/or consideration as the amendments amplify issues previously discussed throughout prosecution; (c) satisfy a requirement of form asserted in the previous Office Action; (d) do not present any additional claims without canceling a corresponding number of finally rejected claims; and (e) place the application in better form for appeal, should an appeal be necessary. The amendments are necessary and were not earlier presented because they are made in response to arguments raised in the final rejection. Entry of the amendments is thus respectfully requested.

Telephonic Interview

Applicants appreciate the courtesies shown to Applicants' representative by Examiner Wyszomierski during the November 10, 2005 telephonic interview. Applicants particularly appreciate Examiner Wyszomierski's indication during the telephonic interview that the amendments and arguments set forth herein would overcome the outstanding rejections.

Allowable Subject Matter

Applicants thank the Examiner for the indication that claims 23-46 contain allowable subject matter.

Rejection Under 35 U.S.C. §112, Second Paragraph

The Office Action rejects claims 14-23 and 43-46 as being indefinite under 35 U.S.C. §112, second paragraph by reason of the recitation of the phrase "the nanoparticles being different from the core-shell nanoparticles" in claim 14 and the recitation of the phrase "the second core-shell nanoparticles being different from the first core-shell nanoparticles" in claim 43. While Applicants do not necessarily agree with the rejection, claims 14 and 43 are amended to recite nanoparticles "selected from the group consisting of pure alloy nanoparticles and second core-shell nanoparticles, the second core-shell nanoparticles having cores or shells that differ in composition from respective cores or shells of the first core-shell nanoparticles." Applicants submit that one of ordinary skill in the art could readily ascertain the metes and bounds of amended claims 14 and 43.

Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

Rejection Under 35 U.S.C. §103

The Office Action rejects claims 14-22 under 35 U.S.C. §103(a) over Teng et al., "Platinum-Maghemite Core-Shell Nanoparticles Using a Sequential Synthesis," Nano Letters, 3(2):261-64 (2003) ("Teng"). Applicants respectfully traverse the rejection.

Claim 14 recites "[a] method of forming nanoparticles, comprising ... form[ing] first core-shell nanoparticles ... and heating the first core-shell nanoparticles to form the nanoparticles, the nanoparticles being selected from the group consisting of pure alloy nanoparticles and second core-shell nanoparticles, the second core-shell nanoparticles having cores or shells that differ in composition from respective cores or shells of the first core-shell nanoparticles" (emphasis added). Teng does not disclose, teach or suggest such a method.

The Office Action asserts that Teng discloses process steps as recited in claim 14, but concedes that Teng does not disclose heating formed core-shell nanoparticles to form

different nanoparticles. The Office Action asserts that such different nanoparticles would inherently be yielded during the initial heating to form the core-shell nanoparticles. Notwithstanding these assertions, Teng does not anticipate and would not have rendered obvious the method of claim 14.

Claim 14 requires that first core-shell nanoparticles be heated to form nanoparticles selected from the group consisting of pure alloy nanoparticles and second core-shell nanoparticles having cores or shells that differ in composition from respective cores or shells of the first core-shell nanoparticles. The Office Action correctly points out that Teng discloses heating various reactants to form core-shell nanoparticles. *See* page 262, column 1, lines 14 to 39. However, there is no disclosure in Teng of a further heating step to form either alloy nanoparticles or core-shell nanoparticles having cores or shells that differ in composition from respective cores or shells of the core-shell nanoparticles obtained during the initial heating step. One of ordinary skill in the art would not expect that such "new" nanoparticles would be obtained in addition to the nanoparticles described in Teng -- the experimental results shown in Teng do not suggest the presence of such "new" nanoparticles. Moreover, as can be seen from the experimental results shown in the instant specification, "new" nanoparticles (alloy nanoparticles or core-shell nanoparticles having cores or shells that differ in composition from respective cores or shells of the core-shell nanoparticles obtained during the initial heating step) may be yielded through different heating conditions than the conditions required to obtain the core-shell nanoparticles in the first instance. For example, as can be seen in Example 6 in the instant specification, Pt@Fe₂O₃ core-shell nanoparticles are obtained by heating at 290 °C, and the core-shell nanoparticles are converted to Fe₃Pt nanoparticles at 550 °C. *See* paragraphs [0133]-[0135]. There is no teaching or suggestion in Teng that a conversion of core-shell nanoparticles would occur during the very heating that is employed to form those core-shell nanoparticles.

As Teng does not teach or suggest heating first core-shell nanoparticles to form nanoparticles, the nanoparticles being selected from the group consisting of pure alloy nanoparticles and second core-shell nanoparticles, the second core-shell nanoparticles having cores or shells that differ in composition from respective cores or shells of the first core-shell nanoparticles, Teng does not teach or suggest each and every feature of claim 14.

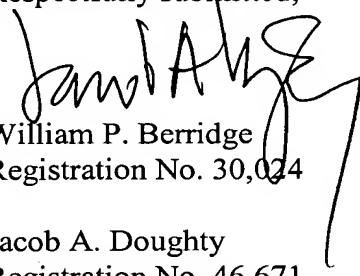
Claim 14 would not have been rendered obvious by Teng. Claims 15-22 depend from claim 14 and, thus, also would not have been rendered obvious by Teng. Accordingly, reconsideration and withdrawal of the rejection are respectfully requested.

Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of claims 1-46 are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,


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